

## PATENT SPECIFICATION

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## (54) TEAT CUP LINER

(71) I, WILLIAM KINGHAM HELLER, a British Subject, of Knighton, Twyford, Hampshire, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to teat cup liners, for example the liners described in British Patent Specification No. 1,225,146. Such liners can be generally described as having a mouth portion for fitting on the teat of a cow and leading to an elongate flexible tube for attachment to a milking machine.

Previously known liners have suffered from the disadvantages that slight acid in the milk and the necessary high temperature heat treatment necessary for sterilization and the continual pulsation of the liner in use cause ageing and deterioration of the liners which require continual replacement.

According to the invention a teat cup liner is made of a silicone rubber having a shore hardness within the range 30°—60°.

It has been discovered that that particular

material is markedly superior to other possible materials which might be used for the liners in that it has the necessary resilience and flexibility and the necessary resistance to heat and acidity to make it ideal for that application.

The invention may be carried into practice in various ways and one embodiment will now be described by way of example with reference to the drawing of British Patent Specification No. 1,225,146.

It is now proposed that the teat cup liner shown in that drawing be moulded from a silicone rubber which is milled or otherwise formed into particles for introduction into a compression die or a transfer die or an injection moulding die.

For a particular silicone rubber known as E.324 sold by Imperial Chemical Industries Ltd., moulding could be in a compression die at a pressure of a little greater than 1000 pounds per square inch, curing being at a temperature of 300°F for 5 minutes.

A preferred silicone rubber composition is as follows:—



## WHAT I CLAIM IS:—

1. A teat cup liner formed from a silicone rubber with a shore hardness between 30° and 60°.

2. A liner as claimed in Claim 1 in which the liner has a mouth for engagement on a cow's teat and a flexible tube leading from the mouth.

3. A liner as claimed in Claim 2 and as claimed in any claim of British Patent Specification No. 1,225,146.

4. A method of making a liner as claimed in any of the preceding claims by moulding

in a die at a pressure of the order of 1000 pounds per square inch.

5. A method of making a liner as claimed in any of the preceding claims in which the material is heat-treated at a temperature of the order of 300°F for about 5 minutes.

6. A teat cup liner made substantially as herein specifically described.

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